

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-11 (canceled).

Claim 12 (new): A power-supply unit comprising:

a main power-supply circuit and a secondary power-supply circuit, both connected to an alternating current power supply; and

an input current control circuit provided in the main power-supply circuit; wherein the input current control circuit controls an input current supplied to the main power-supply circuit such that harmonic current is suppressed in a current of a summation of the input current supplied to the main power-supply circuit and an input current supplied to the secondary power-supply circuit.

Claim 13 (new): A power-supply unit comprising:

a main power-supply circuit and a secondary power-supply circuit, both connected to an alternating current power supply; and

an input current control circuit provided in the main power-supply circuit; wherein the input current control circuit controls an input current supplied to the main power-supply circuit such that a current of a summation of the input current supplied to the main power-supply circuit and an input current supplied to the secondary power-supply circuit is substantially proportional to an input voltage supplied to the input current control circuit.

Claim 14 (new): A power-supply unit comprising:

a main power-supply circuit and a secondary power-supply circuit, both connected to an alternating current power supply;

an input current control circuit provided in the main power-supply circuit; and

a circuit current detection element provided in the input current control circuit;
wherein

a current of a summation of an input current supplied to the main power-supply circuit and an input current supplied to the secondary power-supply circuit flows in the circuit current detection element; and

the input current control circuit controls the input current supplied to the main power-supply circuit such that harmonic current is suppressed in the current flowing in the circuit current detection element.

Claim 15 (new): The power-supply unit as claimed in claim 14, further comprising:

a first rectifying circuit connected between the alternating current power supply and the input current control circuit, the first rectifying circuit provided in the main power-supply circuit;

a second rectifying circuit connected to the alternating current power supply, the second rectifying circuit provided in the secondary power-supply circuit; and

a smoothing circuit connected to the output of the second rectifying circuit, the smoothing circuit provided in the second power-supply circuit.

Claim 16 (new): The power-supply unit as claimed in claim 15, further comprising:

a switch connected between the alternating current power supply and the first rectifying circuit.

Claim 17 (new): The power-supply unit as claimed in claim 14, further comprising:

a first rectifying circuit connected between the alternating current power supply and the input current control circuit, the first rectifying circuit provided in the main power-supply circuit;

a reverse-current prevention diode connected to the output of the first rectifying circuit, the reverse-current prevention diode provided in the secondary power-supply circuit; and

a smoothing circuit connected to the output of the reverse-current prevention diode, the smoothing circuit provided in the secondary power-supply circuit.

Claim 18 (new): The power-supply unit as claimed in claim 14, wherein the input current control circuit is a boost converter.

Claim 19 (new): The power-supply unit as claimed in claim 18, wherein the boost converter includes an inductance element, one terminal of the inductance element is connected to one output terminal of the first rectifying circuit, a diode connected between the other terminal of the inductance element and an output terminal of the main power-supply circuit, a switch element connected between the other terminal of the inductance element and the other output terminal of the first rectifying circuit, and a smoothing capacitor connected between an output terminal of the main power-supply circuit and the other output terminal of the first rectifying circuit.

Claim 20 (new): The power-supply unit as claimed in claim 14, wherein the input current control circuit is a flyback converter.

Claim 21 (new): A power-supply unit as claimed in claim 20, wherein the flyback converter includes a transformer in which one terminal of a primary winding is connected to one output terminal of the first rectifying circuit, a switch element connected between the other terminal of the primary winding and the other terminal of the first rectifying circuit, a diode connected between one terminal of a secondary winding of the transformer and an output terminal of the main power-supply circuit, and a smoothing capacitor connected between an output terminal of the main power-supply circuit and the other terminal of the secondary winding.

Claim 22 (new): A power-supply unit comprising:

a main power-supply circuit and a secondary power-supply circuit, both connected to an alternating current power supply;
an input current control circuit provided in the main power-supply circuit; and
a circuit current detection element provided in the input current control circuit;
wherein

a current of a summation of an input current supplied to the main power-supply circuit and an input current supplied to the secondary power-supply circuit flows in the circuit current detection element; and

the input current control circuit controls the input current supplied to the main power-supply circuit such that the current flowing in the circuit current detection element is substantially proportional to an input voltage supplied to the input current control circuit.

Claim 23 (new): The power-supply unit as claimed in claim 22, further comprising:

a first rectifying circuit connected between the alternating current power supply and the input current control circuit, the first rectifying circuit provided in the main power-supply circuit;

a second rectifying circuit connected to the alternating current power supply, the second rectifying circuit provided in the secondary power-supply circuit; and

a smoothing circuit connected to the output of the second rectifying circuit, the smoothing circuit provided in the second power-supply circuit.

Claim 24 (new): The power-supply unit as claimed in claim 23, further comprising:

a switch connected between the alternating current power supply and the first rectifying circuit.

Claim 25 (new): The power-supply unit as claimed in claim 22, further comprising:

a first rectifying circuit connected between the alternating current power supply and the input current control circuit, the first rectifying circuit provided in the main power-supply circuit;

a reverse-current prevention diode connected to the output of the first rectifying circuit, the reverse-current prevention diode provided in the secondary power-supply circuit; and

a smoothing circuit connected to the output of the reverse-current prevention diode, the smoothing circuit provided in the secondary power-supply circuit.

Claim 26 (new): The power-supply unit as claimed in claim 22, wherein the input current control circuit is a boost converter.

Claim 27 (new): The power-supply unit as claimed in claim 26, wherein the boost converter includes an inductance element, one terminal of the inductance element is connected to one output terminal of the first rectifying circuit, a diode connected between the other terminal of the inductance element and an output terminal of the main power-supply circuit, a switch element connected between the other terminal of the inductance element and the other output terminal of the first rectifying circuit, and a smoothing capacitor connected between an output terminal of the main power-supply circuit and the other output terminal of the first rectifying circuit.

Claim 28 (new): The power-supply unit as claimed in claim 22, wherein the input current control circuit is a flyback converter.

Claim 29 (new): A power-supply unit as claimed in claim 28, wherein the flyback converter includes a transformer in which one terminal of a primary winding is connected to one output terminal of the first rectifying circuit, a switch element connected between the other terminal of the primary winding and the other terminal of

the first rectifying circuit, a diode connected between one terminal of a secondary winding of the transformer and an output terminal of the main power-supply circuit, and a smoothing capacitor connected between an output terminal of the main power-supply circuit and the other terminal of the secondary winding.